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DESERT STORM AND THE AMPHIBIOUS ASSAULT

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Operations Department.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Abstract of DESERT STORM AND THE AMPHIBIOUS ASSAULT

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DESERT STORM AND THE AMPHIBIOUS ASSAULT

CHAPTER I

INTRODUCTION

The year 1990 will long be remembered as the year that marked the end of the longest and most expensive war of the Twentieth Century--the Cold War. Amid the rubble of the Berlin Wall lay also the communist governments of Eastern Europe and their alliance, the Warsaw Pact. Even the Soviet Union was not immune to the forces of freedom as one republic after another rejected the basic tenets of the "October Revolution" in a movement that has not yet been resolved. The polarization of the post World War II era, which divided the world into two ideological camps, has also been fractured by the maneuvering of the world's nations to fill the political vacuum that has emerged.

The nineties are watershed years for the strategic thinking of the United States. The world's transition to multipolar interests and regional power systems presents this nation with many new diplomatic, economic, and military challenges. While the national interests of the United States have not changed, the policies and strategies to achieve these interests must be reexamined in light of the uncertainty and instability created by the shifting of alliances and the emergence of regional powers.

The polarity of the Cold War provided a relatively high

degree of stability in world affairs. Many Third World nations sought regional protection and influence by either aligning themselves with one of the superpowers, or by remaining neutral and skillfully exploiting East-West competition. For decades, this arrangement created a relatively stable and predictable environment. The rapprochement of East and West, however, has cast these surrogates and neutrals adrift and confronted the United States with new uncertainties throughout the world.

"As major military powers reduce forces and pull back from forward positions, regional powers and emerging Third World nations will accelerate their acquisition of modern combat weapons and delivery platforms."¹ This proliferation of advanced weaponry comes at a time when the number of overseas U.S. bases is at its lowest point in 40 years. In addition, many nations have shown a desire to further reduce or eliminate U.S. military presence within their borders. Therefore, the trend toward fewer overseas bases is likely to continue.²

In light of these world changes, Secretary of Defense Richard Cheney said, "With a shrinking overseas base network and fewer nations willing to allow U.S. access to their facilities...the capabilities of our maritime power projection forces have become even more vital to our security."³ While Congress appears to agree, a shrinking defense budget has forced it to look closely at the methods by which such power is projected.⁴

Against this background, the long-standing argument over the viability of amphibious warfare has begun anew. Until now, the nation's amphibious capability has been retained as a hedge against uncertainty. However, domestic pressure to shrink the Federal budget has caused Congress to take a hard look at just what kind of amphibious force this nation needs. Therefore, the question must be answered: Is the amphibious assault obsolete? If it is, then U.S. national and military strategies, as well as the campaign plans of the unified CINCs, must be revised to reflect this reality.

Ironically, it may be that Operation Desert Storm, in which there was no amphibious assault, has provided the answer. The purpose of this paper is to show how the recent war with Iraq demonstrated that the ship-to-shore assault is still the most versatile and flexible form of power projection available to a maritime nation.

Since an understanding of the controversy is necessary to finding a solution, the next chapter examines both sides of the amphibious argument. Chapter III is the core of the paper. It explains how the circumstances of Desert Storm and the operational concepts employed therein, shed new light on an old issue. Finally, Chapter IV provides some conclusions.

CHAPTER II

THE CONTROVERSY

"Large-scale amphibious operations will never occur again."¹

General Omar Bradley

There are few subjects of interest to practitioners and students of modern warfare that can cause more debate than the topic of amphibious operations. They are accepted to be the most hazardous and complex of military procedures requiring extensive coordination, timing, and control to achieve success.²

Until World War II, the practice of projecting power from the sea in the form of amphibious forces had met with mixed results. From the protracted and indecisive campaign led by Wellington against Napoleon on the Iberian Peninsula, to the near disastrous amphibious assault against the Turks at Gallipoli in 1915, proponents of amphibious warfare had little to cheer about.

Throughout the 19th century there were no amphibious assaults of the kind seen during the two World Wars. Amphibious tradition at that time was characterized by unopposed landings and establishment of shore bases from which land campaigns could be supported. The first real effort to conduct a high intensity landing on a hostile shore ended in the debacle at Gallipoli.³

The lesson of Gallipoli was, for many, that the

amphibious assault was not a practical alternative to land combat. The U.S. Army, for example, believing that the British experience in World War I proved that assaults on a hostile shore were technologically impossible, rejected the amphibious assault mission.⁴ Notwithstanding this conventional wisdom, the ship-to-shore assault soon proved to be the only practical means for the World War II Allies to defeat the Axis Powers of Germany, Italy, and Japan.

While World War II may "justifiably be viewed as the golden age of amphibious warfare,"⁵ it has done little to resolve the controversy that surrounds this unique military capability. Indeed, General Bradley's now famous Congressional testimony about the future of amphibious assaults (contained in the epigraph), occurred merely four years after the successful conclusion of the Pacific island-hopping campaign, and only one year before the spectacular amphibious success at Inchon, which is credited with turning the tide of the Korean War.

The Inchon assault is also said to have won another war, i.e., the political war waged by then Army Chief of Staff Dwight D. Eisenhower and U.S. Air Force Commander Carl Spatz, to cut nearly all amphibious assault forces from the U.S. arsenal.⁶ It was the proven value of the amphibious assault during the Korean War that prompted Congress, in 1952, to amend the National Security Act of 1947, and statutorily provide for an amphibious force of not less than three divisions and three air wings.⁷

The challenge to amphibious warfare arose again in the mid 1970s, when then Secretary of Defense James R. Schlesinger questioned "the need for an amphibious force which [had] not seen anything more demanding than essentially unopposed landings for over 20 years, and which would have grave difficulty in accomplishing its mission of over-the-beach and flanking operations in a high threat environment."⁸

The issue gathered momentum in 1976 with the publication of the highly controversial Brookings Institution study, Where Does the Marine Corps Go from Here?⁹ This study, which was quickly embraced by the opponents of large amphibious forces, concluded that the amphibious assault was politically and militarily obsolete.¹⁰ The argument was never settled, however, as the 1979 Iranian hostage crisis erupted and blunted the momentum provided by the study's conclusions. With the United States' seeming inability to protect its citizens or its interests abroad, there was little enthusiasm in Congress or the Administration for any measure that would weaken further the nation's power projection ability.

Today, however, the looming Federal budget deficit and the easing of tensions between East and West, have both focused renewed Congressional attention on Service roles and missions.¹¹ As the nation's defense budget dwindles, competition for scarce resources has fueled again the controversy surrounding the amphibious assault mission.

In 1989, the Congressional Budget Office (CBO), at the request of the House Committee on Armed Services, analyzed

the nation's amphibious requirements.¹² The study focused almost entirely on the amphibious assault mission, outlining the arguments both for and against such a capability. To put the dispute into context, the CBO also recounted the instances of amphibious landings since 1945. In keeping with its charter to provide objective advice, the CBO made no recommendations. Even so, the inferences of the document were decidedly against the amphibious assault mission.

The principal arguments against ship-to-shore assaults have centered around two themes. First, that the proliferation of modern technology, especially precision guided munitions (PGMs) and satellite reconnaissance, has made the risks of carrying out an amphibious assault unacceptable. In addition, the widespread availability of inexpensive but nonetheless deadly mines presents an unacceptable threat to the amphibious task force, and to the landing force.

The second argument concedes the requirement for some amphibious forces, but not large ones. This conclusion is based on the experience of the last 45 years. Except for Inchon, there hasn't been a need for a World War II style assault. And, even the landing at Inchon involved only 19,500 Marines.¹³

At first glance, Operation Desert Storm, the battle to liberate Kuwait from its Iraqi conquerors, seems to confirm these arguments. Of about one-half million U.S. service members, only the assault echelon of two Marine Expeditionary

Brigades, 18,000 men,¹⁴ were embarked on amphibious shipping-- and they never made an assault!

It was said that an "amphibious assault through [the] mine-strewn waters [of Kuwait] and up beaches raked by enemy fire, would almost surely have been the most costly engagement of the war...."¹⁵ Consequently, some already fear that in the upcoming defense budget battles, detractors of the amphibious mission will point to Desert Storm, "where the Marines never landed but fought only as an Army corps," as proof that the amphibious assault is obsolete.¹⁶

Notwithstanding this evidence, supporters of the amphibious mission remind us that since 1945, the number of nations in which there are U.S. bases has declined from more than 100 to fewer than 40 today.¹⁷ Accordingly, they stress that maintaining mobile, sustainable forces is critical to U.S. strategy. Mackubin Owens summed up the operational value of amphibious forces in the absence of forward bases in the following words:

...[They] provide the capability for rapid flexible response to a contingency, the capability to function without reliance on forward bases and the ability to influence an opponent's strategy by pinning down disproportionately larger forces. Amphibious forces can threaten an exposed maritime flank, execute forcible entry and then be rapidly withdrawn to be selectively employed elsewhere if needed. The importance of amphibious capability is indicated by the fact that amphibious operations...are integral to the plans for contingency and general war of each geographic unified command.¹⁸

In support of this position, another Brookings study, Force Without War,¹⁹ is frequently offered as proof of the

utility of amphibious forces in locations where there are no forward bases. According to Brookings, between 1945 and 1975, amphibious forces were used in 33% of all the incidents in which the United States was involved. Further, in the last three years studied, the rate at which amphibious forces were used escalated to 75%.²⁰ Following this same line of reasoning, the critical importance of the amphibious mission is said to be underscored by the fact that of the 113 cities in the world thought to be significant to U.S. interests, 80 are within 75 miles of the sea.²¹

Jeffrey Record argues that the absence of large-scale amphibious assaults is not justification for abandoning the capability. Instead, their absence may be due to the deterrent effect of the United States' substantial amphibious forces. It is likely, he argues, that potential adversaries have been dissuaded from taking action that would provoke an amphibious response. Further, he argues that the very success of deterrence derives from things that do not happen, and that a nation must always be prepared for the unexpected, citing as an example the invasion of the Falklands.²² Similarly, as short a time ago as August 1, 1990, no one foresaw Iraq's invasion of Kuwait, and the U.S. response thereto.

Often, supporters of amphibious warfare argue that too much emphasis is placed on the ship-to-shore assault; and that there is little recognition of the more common uses of amphibious forces such as raids, peace keeping missions, and

special operations. While these arguments highlight the versatility of amphibious forces, they skirt the issue that large numbers are not required for these small scale operations. As mentioned above, there are few who advocate that the United States should abandon all of its amphibious capability. Rather, it's the amphibious assault that is viewed as an anachronism primarily because of the advent of "smart" weapons and satellite imagery.²³

The answer to the threat posed by these new technologies is often said to be technology itself.²⁴ It's argued that new equipment such as the air-cushioned landing craft (LCAC), the MV-22 tilt rotor aircraft, and the advanced amphibian assault vehicle (AAAV) will give the landing force the ability to extend its operational reach by striking from over-the-horizon and thereby threatening more than 1,000 miles of the enemy's coastline. The speed and mobility of these crafts will also enable the landing force to evade precision guided munitions and pass over or around heavily defended beaches.²⁵

Still others argue that the success of future amphibious assaults requires far more than new technology. In addition to new weapons and more capable assault craft, amphibious assault itself must be reinvented. It's said that only by adopting maneuver warfare tactics that target the enemy's cohesion and command by seizing the initiative and confusing him with rapid thrusts from unexpected directions, can the amphibious assault overcome the natural advantages of the modern defense.²⁶

These arguments, although cogent and persuasive, have suffered a critical vulnerability, i.e., there have been no recent practical applications of the theory to prove its validity. Just as the opponents of the amphibious assault cannot safely rely on the absence of large-scale amphibious operations since World War II as conclusive proof of their obsolescence, neither could those in favor of a robust amphibious capability point to an assault where the combination of new technology and innovative tactics overcame modern defenses.

Now however, contained within the stunning success of Operation Desert Storm, there exists the elements of proof that the amphibious assault is not out of date. To the contrary, we can see in the lopsided victory over the entrenched Iraqis how coalition air and ground forces, while maneuvering on and over an ocean of sand, exploited the basic operational tenets of the modern amphibious assault in order to achieve a decisive victory.

CHAPTER III

ANALYSIS OF DESERT STORM

Lessons. The lessons learned from Operation Desert Shield and Desert Storm are sure to dominate military discussions for many years to come. From technology to tactics, and from training to transportation, the questions are already being asked: What worked, what didn't and why? Coming as they do amidst a large defense draw-down, the answers to these questions are certain to have a profound impact on doctrine, training, procurement and force structure. Within five years, the United States' defense budget will be reduced to 3.6 percent of the gross national product, the lowest level since before World War II.¹ The utility of an amphibious assault, already a contentious issue before Iraq's invasion of Kuwait, may appear more limited now than ever.

Liddell-Hart's dictum that an amphibious force can provide a distraction to the enemy that is disproportionate to the size of the force used.² again proved to be true in Desert Storm. A mere two regimental landings teams, loitering for months off the coast of Kuwait, posed such a threat to the Iraqi army that it devoted up to 10 divisions to defend against the feigned amphibious assault.³ While the Iraqis were looking east, the coalition forces went west. " 'We just went right around them,' [General] Schwarzkopf said, 'And we were behind them in no time at all.' " ⁴

This ostentatious show of amphibious power certainly proved to be of operational value to the commander, affording him both surprise and momentum. However, it's hardly convincing of the need for a robust amphibious capability. In fact, at first blush, it would appear that the only success the Iraqi military achieved during the war was its ability to prevent an amphibious assault.

Despite the overwhelming victory, many experts in military affairs are cautioning that the war presented a unique set of circumstances not likely to be encountered again. In particular, we are being reminded that the coalition could rely on Saudi Arabia's modern seaports and expansive network of airfields, all built during the 1980s for just such a contingency, to stage thousands of troops and tons of equipment in the theater. Also, the coalition was not challenged by the Iraqis during the six months that they prepared themselves for war.⁵ "Few future battlefields will be similar," David Hackworth argues, "This campaign cannot serve as a model for the future."⁶

It's often said that one must be careful not to learn the wrong lessons when assessing a military operation. Unfortunately, some lessons being derived from the war stem from a restrictive view of the conditions that made it a success. Looked at more broadly, we can see that virtually all of the essential elements that contributed to victory are not unique at all. To the contrary, the operational advantages that were enjoyed and exploited by the coalition forces are inherent in every amphibious assault.

Analogy. In order to better understand the thesis of this paper, one must keep in mind that the characteristics of the desert are, in many ways, similar to those of the sea. Both are vast expanses of flat, featureless terrain, with nearly unlimited visibility. In operational terms, the sea and desert both offer unrestricted mobility to a military force. The absence of natural obstacles enables the commander to choose virtually any axis of advance, but at the same time his forces are readily exposed to the opponent's observation and defensive fire.

Keeping in mind the terrain similarity of the desert and the sea, imagine that the vast Saudi desert, where coalition forces readied themselves for the assault, is an ocean of water, not sand. Next, visualize the long Saudi border with Kuwait and Iraq as a coastline along the Saudi "ocean." It was from this ocean of sand that coalition forces launched the most dramatic "amphibious" assault since Inchon.

To draw the analogy, let us begin with Operation Desert Shield, the deployment of U.S. forces to Saudi Arabia. As mentioned above, the state-of-the-art Saudi logistic infrastructure from which the United States assembled its powerful coalition of forces, is being widely regarded as a stroke of good fortune unlikely to be seen again in future contingencies. To the contrary, however, similar conditions can be assembled virtually anywhere in the world by way of an amphibious task force (ATF). With three-quarters of the world's population living in close proximity to the sea.⁷

amphibious forces offer the most practical solution to the problem of executing a military strike in an era that offers fewer forward deployed forces and a diminishing number of overseas bases.

An added benefit of amphibious basing is the relative security it provides from preemptive attack. Saddam Hussein's gravest error may have been to allow the United States more than six months to build a fighting machine under his shadow. David Hackworth put it bluntly: "The forces deployed beginning in August would have been nothing more than a speed bump in the desert if Iraqi tank columns had charged into Saudi Arabia."⁸

Amphibious forces, on the other hand, may assemble while at home or in the port of a friendly nation, far from danger, not arriving in the amphibious objective area (AOA) until D-Day. Still, for purposes of this analogy, Saddam Hussein's decision to leave coalition forces unmolested for six months provided them with the same security that the sea affords an ATF.

The striking operational similarities between Desert Storm and a modern amphibious assault go far beyond the mere assembly of forces at secure bases outside the reach of the enemy. To understand them, however, you must put aside the old notion of an amphibious assault where strength is pitted against strength in a massed attack across a heavily defended beach. Such head-on confrontations inevitably lead to a war of attrition and the sacrifice of operational momentum.

deception, and leverage. Instead, in Desert Storm, the coalition exploited the relative safety and superior operational mobility offered by the Saudi "ocean" in order to deceive the enemy and achieve operational surprise.

The Iraqis had erected along the Kuwaiti "coast" a formidable barrier system which was covered by their sizable artillery forces. Consisting of minefields, barbed wire, deep trenches filled with flammable oil, and other obstacles to canalize movement and impede the "amphibious" assault, this barrier formed a virtual killing field for the "landing force." Nevertheless, coalition forces moved forward and took up positions along the heavily defended Kuwaiti "coast." This deployment reinforced the preexisting Iraqi belief as to the most likely "invasion beach" for the pending "amphibious" assault.

To strengthen the enemy's conviction about the "landing" site, for nearly six weeks, artillery engagements, air strikes, minor skirmishes and probes were repeatedly launched from the Saudi "sea" all along the Kuwaiti "coast." At the same time, coalition air power struck relentlessly to isolate the "AOA." Round-the-clock battlefield air interdiction degraded the enemy's logistic system, attrited his forces, restricted his mobility, disrupted his command and control, and prevented his resupply, reinforcement or escape.

When "D-Day" arrived--the start of the land offensive--the "ATF" reinforced its deception campaign by striking at seven different points along the Kuwaiti "coast." The 1st

and 2d Marine Divisions displaced from their positions on the right flank and secretly moved to the center of the Kuwaiti "beach." Infiltrators, sent in long before "H-Hour," breached treacherous Iraqi minefields enabling coalition forces to slither through the enemy barriers. Close air support and radar directed counter-battery fire neutralized Iraqi artillery. The 1st Armored Cavalry Regiment faked a full scale attack along the most likely avenue of approach and the 2d Marine Division, when it encountered resistance, moved sideways and bypassed the stronghold.⁹

Only 10 days before "D-Day," VII and VIII Corps, nearly 250,000 men together with their equipment and supplies, secretly moved as much as 300 miles west to an undefended stretch of the Iraqi "coastline." At "H-Hour," both VII and VIII Corps leapfrogged from "over-the-horizon," by air and "surface," into Iraq. Tactical fuel and supply bases were set up deep inside enemy territory to support the "landing force." Confused and surprised by allied deception, tempo, and mobility, the Iraqi Army quickly crumbled.¹⁰

Analysis. The common thread running through all facets of the ground portion of Desert Storm is operational mobility, i.e., "the ability to move between engagements and battles within the context of the campaign..."¹¹

Taking advantage of the superb mobility offered by the relatively flat Saudi "ocean," the coalition could maneuver rapidly, search for enemy weaknesses, and then concentrate superior force against these vulnerabilities. The terrain

also facilitated multiple axes of advance, all of which served to generate high operational momentum and tempo for the allies. The faster the tempo, the greater the disadvantage to the enemy, who became helpless to respond to the rapidly changing situation.

Such conditions are usually difficult to achieve on land because of the common presence of restrictive terrain features. However, this limitation does not exist at sea. In 1983, Richard Moore described, in his prize winning essay, the operational advantages of the sea and how to best use them in an amphibious assault:

The operational significance of coastal waters has never been fully appreciated. Unlike inland terrain, with its hills, streams, forests and various other obstacles, the ocean is relatively flat, even in weather conditions that often slow or stop land campaigns, offering amphibious forces a plain on which to conduct initial operations. The advantages offered by this plain can be exploited using new landing tactics based on multiple landing points and rapid shifting of forces.¹²

Writing on a similar subject, William Lind described the operational importance of seaborne amphibious mobility in the following way:

...a seaborne force is more mobile than even a mechanized land-based force, which must contend with few roads, most of them bad. The seaborne force can shift its operational point of main effort faster than can the land-based force. Operational Mobility can be decisive.¹³

We saw that in Desert Storm, using techniques like those described by Moore and Lind for the amphibious assault, the coalition was able to quickly penetrate the extensive fortifications of the Kuwaiti "coast." Simultaneously, the

main attack struck the enemy's rear by "landing," unseen, across an undefended stretch of "shoreline" hundreds of miles to the West. In operational terms, the superior mobility afforded by "surface" and air, enabled the commander of Desert Storm to gain leverage over his opponent by using a small portion of his force to fix the defending Iraqis in their static positions while the main force encircled the enemy from behind. It was the inherent mobility offered by the Saudi "ocean" that permitted the allies to avoid the treacherous "coastal" defenses while massing strength against enemy weakness.

Similarly, over-the-horizon technology foretells a revolution in warfare that will offer the amphibious assault operational mobility never before possible. An ATF loitering 400 miles off-shore could land at any point over 1,200 miles of coastline within 24 hours.¹⁴ New surface effect landing craft will surmount beach gradients untraversable by conventional craft and thereby expose 70% of the world's shoreline to invasion.¹⁵ Long range, high speed aircraft such as the MV-22 will be able to strike deep inside enemy territory to disrupt his command and control, to destroy critical targets, and to establish blocking positions. An enemy required to defend a battlefield of such depth and width will be faced with a near impossible task.

The landing force, free from ponderously slow ship-to-shore movement, will no longer be an easy target for "smart" weapons. Minefields and other fortifications will be

bypassed or breached with high speed, shallow water mine sweepers clearing a path ahead of the assault craft. Speed and stand-off distance will facilitate operational maneuver greater than that seen in Desert Storm, and can achieve surprise despite any long range reconnaissance capability of the enemy.

Logistics, too, played a crucial role in Desert Storm. In order to shift all the men, equipment, and supplies of VII and VIII Corps, the coalition shuttled 4,500 trucks over hundreds of miles of "sea," 18 per minute past any given spot, 24 hours a day, for 10 days.¹⁶ When the assault began, the main supply base remained "afloat" on the Saudi "ocean," safe from harm. The logistic needs of the assault force were anticipated and pushed forward, by "surface" and air, to tactical supply bases "ashore."

While the logistic concept of Desert Storm resembles closely that of the amphibious assault,¹⁷ a landing force actually enjoys a substantially greater mobility advantage. With the equipment and supplies already embarked aboard amphibious shipping and mobile loaded on landing force vehicles, a displacement similar to that of Desert Storm may be accomplished within 24 hours of H-Hour and without the need of 4,500 trucks. When the landing force possesses complete over-the-horizon capability, it may strike 300 miles down the coast without the ATF moving at all.

If the Iraqis had had access to satellite imagery or aerial reconnaissance during Desert Storm, there is little

chance that the coalition could have achieved tactical or even operational surprise by their flanking movement. Amphibious mobility is so great, however, that a landing force may easily acquire at least operational surprise regardless of the intelligence gathering capability of the enemy.

Similarly, the inherent security offered by sea-basing logistic support, together with the ability to respond rapidly to the needs of the landing force, sustains tempo by extending the culminating point of the assault, i.e., the "point where the strength of the attacker no longer significantly exceeds that of the defender..."¹⁸ Paul Pugh points out

Large lucrative rear areas, with stockpiled supplies will certainly be targeted by the enemy. Loss of these assets will reduce tempo, hence, an advantage to the enemy. Amphibious forces with their organic sea-based...[supplies] and selective off-load capability can provide the unified commander with the logistic edge to avoid, or at least extend the culminating point.¹⁹

Finally, there is the role played by aviation. Undeniably, air power contributed immeasurably to victory in Desert Storm, and would be a key component of an amphibious campaign as well. Although the United States may never again be granted such extensive overflight rights or have widespread access to foreign air bases, the landing force can, nevertheless, always depend on its own organic aviation operating from the decks of amphibious shipping. Additional air support is also available from one or more carrier battle groups, which may be operating in support of the ATF.

Therefore, even if land-based air support is unavailable or limited, sea-based aviation can achieve air superiority and perform effective battlefield interdiction, while affording the landing force unparalleled mobility, in virtually all of the world's littorals.

CHAPTER IV

SUMMARY AND CONCLUSIONS

"Amphibious flexibility is the greatest strategic asset that a sea-based power possesses."¹

B. H. Liddell-Hart

The analogy drawn between Operation Desert Storm and an amphibious assault is, of course, not perfect. For one thing, much of the equipment necessary to breach minefields at sea and to conduct an over-the-horizon assault is still under development. For another, the coalition forces continued to enjoy exceptional mobility even after coming "ashore," as they were, in reality, still operating on the desert floor. The desert terrain "ashore" not only facilitated the speed and maneuver of the ground forces, it was also the perfect terrain for air interdiction.

Nevertheless, these differences do not undermine the thesis of this paper. In the first case, new technologies now under development will soon give the landing force true over-the-horizon capability. Similarly, shallow water mine clearing technologies are also being researched and tested for eventual employment in the amphibious assault.² The combination of these new technologies and operational maneuver will greatly reduce the effectiveness of modern defenses. The landing force will be capable of striking with unprecedented speed, building up combat power ashore and lashing into the enemy's rear before he can react and bring his forces to bear.

In the second case, the existence of canalizing terrain and other obstacles to movement are an advantage or disadvantage to both sides. By choosing landing sites where there are poor road networks, or where there are choke points that can be interdicted or occupied, the enemy's ability to react to the assault can be greatly impeded. In short, the terrain may be exploited to ensure the safety of the assault force during the early stages of the operation.

In summary, the end of the Cold War has brought about a new kind of uncertainty. The likely reemergence of a multipolar world bodes rise to new regional powers that may threaten U.S. interests. The absence of high intensity war since Korea can no longer be taken for granted. The war with Iraq is a case in point.

In an era of declining overseas bases and fewer forward deployments, amphibious forces are uniquely configured to respond to the threat. Despite the proliferation of highly sophisticated, lethal weapons and satellite reconnaissance, the superior operational mobility of the amphibious assault makes it survivable. In concert with air, land and sea warfare, the amphibious assault can provide the operational commander the striking power to win.

Assaults such as those on Iwo Jima and Tarawa were anachronisms. Extremely limited terrain gave the landing force no alternative but to go head-to-head with the defender. It's difficult today to conceive of a scenario where the United States would be forced to engage in an

island hopping campaign against an imperial power. Regional contingencies like Desert Storm are more likely. Indeed, had Saddam Hussein not stopped at the Saudi border and gone on to seize the Saudi oil fields, ports and air bases, an amphibious assault would almost certainly have been a critical component of any campaign to retake the lost territory.

The medium of the sea offers a mobility advantage that can be readily exploited through the application of the operational art. The unparalleled mobility of the sea can enable the operational commander to create combat superiority at decisive points while avoiding altogether the enemy's strength. By giving battle only when it's advantageous and necessary, operational tempo is sustained.

Tempo is also generated by the sea's extraordinary capacity to make possible multiple simultaneous tactical thrusts. In this way flexible alternatives are created for the assault force and ambiguity, surprise, and confusion are imposed upon the enemy.

In short, the amphibious assault is ensconced in the operational art and is, therefore, a devastating military tool.³

NOTES

Chapter I

1. H. Lawrence Garrett III, et al., "The Way Ahead," U.S. Naval Institute Proceedings, April 1991, p. 37
2. James R. Blake, "US Overseas Basing System Faces a Difficult Transition," Armed Forces Journal International, February 1989, pp. 65-66.
3. Richard Cheney, quoted in Edward J. Walsh, "Amphibious Sealift Plans Face New Realities," Armed Forces Journal International, April 1990, p. 60.
4. Ibid.

Chapter II

1. Omar Bradley, quoted in Jeffrey Record, "The Marines and the Amphibious Mission," Amphibious Warfare Review, Summer 1987, p. 54.
2. Geoffrey Till, Modern Sea Power, (London: Brassey's Defence Publishers, 1987), p. 110.
3. William H. Russell, "Maritime and Amphibious Alternatives," Marine Corps Gazette, December 1989, pp. 13-15.
4. Martin Binkin and Jeffrey Record, Where Does the Marine Corps Go from Here?, (Washington: Brookings Institution, 1976), p. 5.
5. Ibid., p. 6.
6. Ibid., p. 7-8.
7. U.S. Laws, Statutes, etc., "Navy and Marine Corps," U.S. Code, Title 10--Armed Forces, 1988 ed. (Washington: U.S. Govt. Print. Off., 1989), Subtitle C, sec. 5063.
8. U.S. Dept. of Defense, Annual Defense Department Report, FY 1976 and FY 1977, (Washington: 1975), p. III-26.
9. Binkin and Record.
10. Ibid., p. 41.
11. Robert R. Ropelewski, "Low Intensity Skirmish Opens 1990 Roles and Missions War," Armed Forces Journal International, April 1990, p. 14.

12. U.S. Congress, Congressional Budget Office, Moving the Marine Corps By Sea in the 1990s, (Washington: U.S. Govt. Print. Off., 1989).

13. Ibid., pp. 24-25.

14. Alfred M. Gray, "The Annual Report of the Marine Corps to the Congress," Marine Corps Gazette, April 1991, p. 22.

15. Thomas Matthews, "The Secret History of the War," Newsweek, March 18, 1991, p. 38.

16. Jean-Louis DeLayen, "Persian Gulf War," Marine Corps Gazette, May 1991, p. 12.

17. U.S. Congress, Congressional Budget Office, p. 9.

18. Mackubin T. Owens, "U.S. Marine Corps," Journal of Defense and Diplomacy, July-August 1985, p. 11.

19. Barry M. Blechman and Stephen S. Kaplan, Force Without War, (Washington: Brookings Institution, 1978).

20. Ibid., p. 43.

21. Paul F. Pugh and Thomas C. Linn, "Rediscovering the Force-in-Readiness," Armed Forces Journal International, August 1989, p. 64.

22. Jeffrey Record, "The Marines and the Amphibious Mission," Amphibious Warfare Review, Summer 1987, p. 59. It is interesting to note that Mr. Record also co-authored Where Does the Marine Corps Go from Here?, (cited in note 4. above). Apparently, he had a change of heart during the intervening years for he now writes: "...the United States for the foreseeable future will need a large, sea-basable, combat ready ground force capable of responding quickly and effectively to military challenges.... If the United States had no large Marine Corps today, it would have to invent one." (Record, "The Marines and the Amphibious Mission," p. 105.

23. Binkin and Record, p. 41. See also U.S. Congress, Congressional Budget Office, p. 11.

24. Thomas C. Linn, "Blitzing the Beach: Over-the-Horizon Assault," Armed Forces Journal International, August 1988, p. 84.

25. Ibid., p. 86. See also Robert L. Earl, "The Over-The-Horizon Alternative," Marine Corps Gazette, October 1988, pp. 37-38.

26. Richard S. Moore, "Blitzkrieg From the Sea: Maneuver Warfare and Amphibious Operations," Naval War College Review, November-December 1983, p. 38. See also, Allan C. Bevilacqua, "Reinventing Amphibious Operations," Marine Corps Gazette, December 1989, p. 17.

Chapter III

1. John Barry, "The Coming Cut Backs in Military Money," Newsweek, March 18, 1991, p. 42.

2. B. H. Liddell-Hart, "The Value of Amphibious Flexibility," Journal of the Royal United Services Institution, Vol. CV, No. 620, November 1960, p. 492.

3. Thomas Matthews, "The Secret History of the War," Newsweek, March 18, 1991, p. 38.

4. H. Norman Schwarzkopf, quoted in Brian Duffy, et al., "The 100-Hour War," U.S. News & World Report, March 11, 1991, p. 14.

5. John D. Morrocco, "War Will Reshape Doctrine, But Lessons Are Limited," Aviation Week & Space Technology, April 22, 1991, p. 39.

6. David H. Hackworth, "Lessons of a Lucky War," Newsweek, March 11, 1991, p. 49.

7. Thomas C. Linn, "Strikes from the Sea," U.S. Naval Institute Proceedings, November 1989, p. 34.

8. Hackworth, p. 49.

9. Peter Cary, "The Fight to Change How America Fights," U.S. News & World Report, pp. 30-31. See also, Ray Wilkinson, "Anatomy of a Cakewalk," Newsweek, p. 48.

10. John Barry and Evan Thomas, "A Textbook Victory," Newsweek, p. 39. See also, Matthews, p. 38.

11. Headquarters, U.S. Marine Corps, Dept. of the Navy, Fleet Marine Force Manual 1-1 Campaigning (Washington: 1990), p. 71.

12. Richard S. Moore, "Blitzkrieg From the Sea: Maneuver Warfare and Amphibious Operations," Naval War College Review, November-December 1983, p. 42.

13. William S. Lind, "The Operational Art," Marine Corps Gazette, April 1988, p. 46.

14. Thomas C. Linn, "Blitzing the Beach: Over-the-Horizon Assault," Armed Forces Journal International, August 1988, p. 86.

15. Jeffrey Record, "The Marines and the Amphibious Mission," Amphibious Warfare Review, Summer 1987, p. 61.

16. Matthews, p. 38.

17. William S. Lind, Maneuver Warfare Handbook (Westview Press: Colorado, 1985), pp. 39-40.

18. Headquarters, Dept. of the Army, Field Manual 100-5 Operations, (Washington: 1986), p. 181.

19. Paul Pugh, "Relating the Operational Art And Amphibious Warfare," Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 1990, pp. 13-14.

Chapter IV

1. B. H. Liddell-Hart, "The Value of Amphibious Flexibility," Journal of the Royal United Services Institution, Vol. CV, No. 620, November 1960, p. 492.

2. Carl White, "Gators O-T-H," Sea Power, November 1990, pp. 25-28.

3. William S. Lind, Maneuver Warfare Handbook (Westview Press: Colorado, 1985), p. 40.

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